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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/848,483	05/03/2001	Raymond Patrick Johnston	1004-012US01	7764
32692	7590	10/18/2004	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY			BELL, PAUL A	
PO BOX 33427			ART UNIT	
ST. PAUL, MN 55133-3427			PAPER NUMBER	

2675

DATE MAILED: 10/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/848,483

Applicant(s)

JOHNSTON ET AL.

Examiner

PAUL A BELL

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 10, 12-14, 18, 20, 26, 27, 29, 31 and 38-45 is/are rejected.
- 7) ☒ Claim(s) 6-9, 11, 15-17, 19, 21-25, 28, 30 and 32-37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. Claims 3 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites the limitation "the switch array" in line 1. There is insufficient antecedent basis for this limitation in the claim. It was never positively claimed in the body of a previous claim that 3 depends on.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 5, 10, 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Finlayson (4,385,219).

With regard to claim 1 Finlayson teaches an apparatus for use in a switch array having spring elements (A preamble is generally not accorded any patentable weight where it merely recites the purpose or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the

structural limitations body of claim are able to stand alone), the apparatus comprising: a bottom layer (figure 1, items 1 and 5) defining holes (in figure 1 see how item 8 interfaces with item 1 along a first hole of a certain diameter, now below this point there is a second hole of smaller diameter than the first hole) for aligning with spring elements (figure 1, item 6); and a top layer (figure 1, items 7 and 15) engaged with the bottom layer and biased away from the bottom layer upon protrusion of the spring elements through the holes in the bottom layer (figure 1 illustrates the spring just protruding above the "first hole" and when the switch is compressed the top of the spring will completely protrude down into second hole. Now when the switch is released the spring will protrude out of second hole travel all the way through first hole and protrude just outside the first hole).

With regard to claim 2 Finlayson teaches the apparatus of claim 1, wherein the top layer includes a plurality of top layer sections, and each of the top layer sections directs user actuated force against one of the spring elements (figure 1, items 7 and 15).

With regard to claim 5 Finlayson teaches the apparatus of claim 1, wherein the bottom layer and top layer define sets of hook-like elements that engage one another to define a distance of travel between the bottom layer and the top layer (figure 1, items 13 and 20-22 define and limit distance of travel and at these interfaces it looks like a curved or bent device for catching which reads on hook-like elements).

With regard to claim 10 Finlayson teaches the apparatus of claim 1, wherein the holes are sized in the range of 0.1 to 2 square centimeters (figure 1 illustrates a finger operated switch where the holes look to be in this range).

With regard to claims 12, 13 and 14 Finlayson teaches the apparatus of claim 5, wherein the distance of travel is less than 3 millimeters, 2 millimeters, or in a range of 0.01 to 1 centimeters (figure 1 shows a switch that has the capability of being pressed down this much or more).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3, 4, 18, 20, 26, 27, 29, 31, 38-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Finlayson (4,385,219).

With regard to claim 3 Finlayson does not directly illustrate the apparatus of claim 2, wherein the switch array is a keyboard, however it is obvious that more than one of Finlayson switches is capable of being produced and arranged together on a board this reads on the well known concept of "mere duplication of a well known part to achieve a multiplicative effect" for example "keyboard".

With regard to claim 4 Finlayson the apparatus of claim 3, wherein each of the top layer sections is aligned with one of a plurality of keys in the keyboard (figure 1, item 15).

With regard to claim 18 Finlayson was found to teach and suggest most of the limitations claimed in 18 in claims 3 and 1 above in addition Finlayson teaches an array of sensor elements that generate signals in response to a force (figure 1 illustrates a spring must be compressed in order to close the switch to send a signal).

With regard to claim 20 the limitations were addressed by Finlayson above in claim 5

With regard to claim 26 Finlayson teaches the keyboard of claim 18, further comprising keycaps attached to the top Layer (figure 1, item 15).

With regard to claim 27 Finlayson teaches the keyboard of claim 18, wherein the array of spring elements are attached to the top layer (figure 1).

With regard to claim 29 Finlayson most of the limitations were addressed by Finlayson above in Finlayson suggest a system comprising: a processor coupled to an input device (it is obvious that a key switch which one of many keys in a keyboard or key pad is intended to be used with some type of processor in a device such as a desktop computer, a laptop computer, a handheld computer, a cellular telephone, an instrument panel, an appliance which all commonly use keys as the input interface for a system).

With regard to claim 31 Finlayson teaches the system of claim 29, wherein the bottom layer and top layer define sets of hook-like elements that engage one another

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to limit a distance of travel between the bottom layer and the top layer (figure 1, items 13 and 20-22 define and limit distance of travel and at these interfaces it looks like a curved or bent device for catching which reads on hook-like elements).

With regard to claim 38 Finlayson teaches the system of claim 29, further comprising keycaps attached to the top layer (figure 1, item 15).

With regard to claims 39, 40, 41, 42, 43, and 44 Finlayson suggest the system of claim 29, wherein the system is a desktop computer, a laptop computer, a handheld computer, a cellular telephone, an instrument panel, an appliance and the input device is a keyboard or key pad on the system (these are all well known devices directed merely towards an obvious intended use of the Finlayson key switch).

With regard to claim 45 Finlayson teaches the system of claim 29, wherein the array of spring elements are attached to the top layer (figure 1, items 7 and 6).

7. Claims 6-9, 11, 15-17, 19, 21-25, 28, 30, 32-37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Bell whose telephone number is (703) 306-3019.

Any response to this action should be mailed to:


Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or Faxed to: (703) 872-9306


Paul Bell

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October 12, 2004


CHANH NGUYEN
PRIMARY EXAMINER